CLAIMS

1. A protein having an endoglucanase activity and derived from a microorganism belonging to genus Staphylotrichum.
2. The protein according to claim 1, having
(A) an encoglucanase activity, and
(B) the amino acid sequence of SEQ ID NO: 1 at the N-terminus thereof.
3. The protein according to claim 2, having
(A) an encoglucanase activity,
(B) the amino acid sequence of SEQ ID NO: 1 at the N-terminus thereof, and
(C) an average molecular weight of 49 kD, determined by a sodium dodecyl sulfate-polyacrylamide gel electrophoresis.
4. The protein according to claim 2, having
(A) an encoglucanase activity,
(B) the amino acid sequence of SEQ ID NO: 1 at the N-terminus thereof, and
(C) an average molecular weight of 45 kD, determined by a sodium dodecyl sulfate-polyacrylamide gel electrophoresis.
5. The protein according to any one of claims 1 to 4, derived from Staphylotrichum coccosporum.
6. A protein selected from the group consisting of:
(a) a protein comprising the amino acid sequence of SEQ ID NO: 3,
(b) a modified protein comprising an amino acid sequence in which one or plural amino acids are deleted, substituted, inserted, or added in the amino acid sequence of SEQ ID NO: 3, and having an endoglucanase activity, and
(c) a homologous protein comprising an amino acid sequence having at least an 85% homology with that of SEQ ID NO: 3, and having an endoglucanase activity.
7. A polynucleotide encoding the protein according to any one of claims 1 to 6.
8. A polynucleotide selected from the group consisting of:
(i) a polynucleotide comprising the nucleotide sequence consisting of nucleotides 64-948 of SEQ ID NO: 2,
(ii) a polynucleotide comprising a nucleotide sequence in which one or plural nucleotides are deleted, substituted, inserted, or added in the nucleotide sequence consisting of nucleotides 64-948 of SEQ ID NO: 2, and encoding a protein having an endoglucanase activity, and

(iii) a polynucleotide hybridizing under stringent conditions to a polynucleotide consisting of the nucleotide sequence consisting of nucleotides 64-948 of SEQ ID NO: 2, and encoding a protein having an endoglucanase activity.

9. An expression vector comprising the polynucleotide according to claim 7 or 8.

10. A host cell transformed with the expression vector according to claim 9.

11. The host cell according to claim 10, wherein the host is a yeast or a filamentous fungus.

12. The host cell according to claim 11, wherein the yeast is a microorganism belonging to genus Saccharomyces, Hansenula, or Pichia.

13. The host cell according to claim 11, wherein the filamentous fungus is a microorganism belonging to genus Humicola, Trichoderma, Staphylotrichum, Aspergillus, Fusarium, or Acremonium.

14. The host cell according to claim 13, the filamentous fungus is Humicola insolens or Trichoderma viride.

15. A process for producing the protein according to any one of claims 1 to 6, comprising the steps of:
cultivating the host cells according to any one of claims 10 to 14, and
collecting the protein from the host cells or a culture obtained by the cultivation.

16. A protein produced by the process according to claim 15.

17. A cellulase preparation comprising the protein according to any one of claims 1 to 6 and 16.

18. A detergent composition comprising the protein according to any one of claims 1 to 6 and 16 or the cellulase preparation according to claim 17.

19. A method of treating a cellulose-containing fabric, comprising the step of bringing the cellulose-containing fabric into contact with the protein according to any one of claims 1 to 6 and 16, the cellulase preparation according to claim 17, or the detergent composition according to claim 18.

20. A method of reducing fuzzing of a cellulose-containing fabric or reducing a rate of the formation of fuzz, comprising the step of bringing the cellulose-containing fabric into contact with the protein according to any one of claims 1 to 6 and 16, the cellulase preparation according to

claim 17, or the detergent composition according to claim 18.

21. A method of reducing weight to improve the touch feel and appearance of a cellulose-containing fabric, comprising the step of bringing the cellulose-containing fabric into contact with the protein according to any one of claims 1 to 6 and 16, the cellulase preparation according to claim 17, or the detergent composition according to claim 18.

22. A method of color clarification of a colored cellulose-containing fabric, comprising the step of bringing the colored cellulose-containing fabric into contact with the protein according to any one of claims 1 to 6 and 16, the cellulase preparation according to claim 17, or the detergent composition according to claim 18.

23. A method of providing a localized color change to a colored cellulose-containing fabric, comprising the step of bringing the colored cellulose-containing fabric into contact with the protein according to any one of claims 1 to 6 and 16, the cellulase preparation according to claim 17, or the detergent composition according to claim 18.

24. A method of reducing stiffness of a cellulose-containing fabric or reducing a rate of the formation of stiffness, comprising the step of bringing the cellulose-containing fabric into contact with the protein according to any one of claims 1 to 6 and 16, the cellulase preparation according to claim 17, or the detergent composition according to claim 18.

25. The method according to any one of claims 19 to 24, wherein the treatment of the fabric is carried out by soaking, washing, or rinsing the fabric.

26. A method of deinking waste paper, comprising the step of treating the waste paper with the protein according to any one of claims 1 to 6 and 16 or the cellulase preparation according to claim 17 together with a deinking agent.

27. A method of improving a water freeness of paper pulp, comprising the step of treating the paper pulp with the protein according to any one of claims 1 to 6 and 16 or the cellulase preparation according to claim 17.

28. A method of improving a digestibility of animal feed, comprising the step of treating a cellulose-containing fabric with the protein according to any one of claims 1 to 6 and 16 or the cellulase preparation according to claim 17.